ANNUAL REPORT

GRADUATE COLLEGE, UNIVERSITY OF ILLINOIS

Urbana and Chicago, Illinois

1960 - 1961

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Annual Report

Graduate College

1960-1961

According to the University of Illinois Statutes, the Graduate College was established "to safeguard and promote standards of graduate work on the Urbana-Champaign and Chicago Professional Colleges campuses and to promote and assist in the development of research in all fields" (Sec. 16, par. a).

In this Report, the principal activities undertaken by the Graduate College in pursuit of these goals in 1960-61 are reviewed and some comparisons with similar activities in preceding years are offered.

I

The Administration of Graduate Education

A. Enrollment

During 1960-61, the total enrollment of the Graduate College was 4,816 in the fall semester and 4,730 in the spring semester. At the time of preparation of this report, the summer sessions of 1961 were not yet over, but the most recent figures indicated an enrollment of 4,214 for the summer. Table I-A, which is presented with other tables in the appendix of this report, summarizes the semester enrollments for the past ten years. From these figures it is clear that the College has experienced a steady growth. Table I-B shows the annual enrollments (that is, the total number of different individuals registered at least once during the year) for the same ten year period. The sharp increase of the in absentia enrollment in 1957-58 resulted from a new policy requiring students to maintain continuous registration after passing their preliminary examinations for the doctorate. This policy has induced a number of individuals not to drop their work at the "ABD" (all-but-dissertation) stage of their graduate education.

The Graduate College's constant growth and present position as one of the University's two largest colleges continue to pose difficult problems of staff, space, and equipment for graduate instruction. At the same time, however, the College's growth in both size and stature continues to provide the University with an ever growing reserve of able advanced students for service in the University's many programs of research and undergraduate instruction.

Table II shows the total enrollment in each graduate department for 1960-61 and for the preceding two years.

B. Financial Aid

1. Types of Fellowships. Table III provides a summary of the number of persons holding each of the various classes of fellowships during 1960-61. It indicates that slightly over 600 graduate students, that is, only 14 per cent of all students enrolled, were supported by some sort of fellowship. Of the

fellows, 29 per cent held fellowships supported by University funds, 30 per cent held fellowships supported by industries and foundations, and 41 per cent held fellowships supported by the federal government.

2. Applications for Aid. Table IV shows the number of persons who applied for each type of financial aid in each instructional subject-matter area during 1960-61 (for awards for 1961-62), together with comparable totals for 1959-60 (for awards for 1960-61). It indicates that applications increased from 3,759 in 1959-60 to 4,434 in 1960-61, an increase of 18 per cent. The limited number of fellowship awards available (see Table III) meant that only 619 of the 3,272 applicants who expressed first preference for fellowships and teaching fellowships, or only 19 per cent of the total, could be supported. As a result, the screening task of the Graduate College's agencies for recommending fellowship awards was the greatest yet faced.

3. Selection of Fellows. To keep the screening task within manageable proportions while guaranteeing every application a full and fair review, the Graduate College continued, in somewhat revised form, the selection procedures for University Fellowships and Teaching Fellowships first adopted in 1959-60. Each department was again assigned a maximum number of applications it could recommend (not, be it noted, the number of awards its majors could receive), but the formula for determining the quotas was changed to one-and-one-half times the highest (not, as formerly, the average) number of University Fellowships and Teaching Fellowships awarded to students in the department during the three preceding annual competitions. No department, however, was assigned a quota of less than three. The revised quota system produced a total of 736 applicants recommended by all departments, as compared with the 653 recommended in the preceding year.

The recommended applications were then screened by one or another of five subcommittees of the Graduate College Fellowship Committee: Subcommittee I, New Students in Pure Physical and Biological Sciences (Professor H. V. Malmstadt, Chairman); Subcommittee II, New Students in Applied Physical and Biological Sciences (Professor W. C. Jacob, Chairman); Subcommittee III, New Students in Education, Pure and Applied Arts, and Humanities (Professor Bruce Harkness, Chairman); Subcommittee IV, New Students in Pure and Applied Social Sciences (Professor Hjalmar Rosen, Chairman); and Subcommittee V, Old Students (Professor J. H. D. Allen, Chairman). 1/

As in previous years, the final screening was made by the Graduate College Fellowship Committee. The members of the 1960-61 Committee were:

R. S. Drago	W. W. McMahon
R. N. Evans	A. V. Nalbandov
Seichi Konzo	Angelina Pietrangeli
David Lazarus	I. D. Steiner
Charles Leonhard	Austin Ranney, Chairman

1/ "Old" students are those previously registered in the Graduate College of the University of Illinois. "New" students are those not previously registered in the Graduate College.

Table V shows the results of the competition for University Fellowships and Teaching Fellowships for 1961-62 and comparable data for the two preceding competitions.

4. Acceptance of University Fellowships. Table VI shows the percentages of University Fellowships and Teaching Fellowships accepted by "old" and "new" students for 1961-62 and for the two preceding years. The figures reemphasize the sharp difference between the rate of acceptance for "old" students, which in the most recent competition was 95.0 per cent, and for "new" students, for which the corresponding figure was 36.1 per cent. These figures provide the statistical basis for determining how many awards may be offered safely in each category. The steady decline in the rate of acceptance by "new" students in undoubtedly the result of the increasingly vigorous nationwide competition among graduate schools for the best students. This trend has been particularly evident in the pure physical sciences for some years. Table VI suggests that it is increasing in the pure social sciences as well.

5. Illinois College Fellowships. After consultation with the President and the Vice-President and Provost, the Graduate College inaugurated a new fellowship program during 1960-61. Each four-year private college in the state of Illinois which awarded baccalaureate degrees to twelve or more persons who subsequently received doctoral degrees from the University of Illinois during the past twenty years was invited to nominate one of its outstanding seniors for a College Fellowship for 1961-62. Each college was informed that if the person so nominated qualified in other respects, he would be awarded the Fellowship, which would have the same stipend and other perquisites as a regular University Fellowship.

Nine colleges qualified for these awards: Augustana, Greenville, Illinois College, Illinois Wesleyan, Millikin, Knox, Monmouth, North Central, and Wheaton. All nine nominated candidates, and seven of the nominees accepted awards. All other Illinois four-year colleges were informed of the new program and of the fact that they would be included as soon as they qualified. The Graduate College received a number of favorable responses to these announcements, and it is hoped that the program will bring excellent students to the University as well as contribute to cordial relations with our sister educational institutions in Illinois.

6. University Tuition and Fee Waivers. As in previous years, the fellowship competition during 1960-61 left a large number of excellent students who could not be offered fellowships but who nevertheless showed high promise as scholars and as potential teaching and research assistants. Not all of these students could immediately be offered assistantships, and if no other form of support were made available, many of them would go elsewhere. For several years the Graduate College has dealt with this problem by awarding a number of University Tuition and Fee Waivers to well-qualified students holding no other appointments. During 1960-61 a total of 664 such Waivers were offered, and 112 were accepted. The students who accept these awards, like their counterparts in previous years, constitute a pool of able and trained personnel available for assistantships should sudden needs arise in the future as they have in the past.

7. Fellowships Supported by Outside Agencies. Table III reveals that 71 per cent of all fellows at the University of Illinois during 1960-61 were supported by funds from agencies outside the University. The two principal programs supported by the federal government are described in the following paragraphs.

Table VII shows the University's record in the National Science Foundation's programs for Cooperative Graduate Fellowships and Summer Fellowships for Graduate Teaching Assistants for 1961-62 and for previous years. While the University of Illinois continued its success in the competition for the Summer awards, an unanticipated change in the national selection panels' criteria resulted in a decline in the number of Cooperative Fellowship awards for 1961-62. The new criteria will be taken into full account when the University's recommendations for these awards are made for 1962-63.

The University fared well under Title IV of the National Defense Education Act. Three new programs were awarded a total of nine fellowships: four in linguistics, three in sanitary engineering, and two in speech correction. Five established programs were awarded a total of 14 additional fellowships: three in experimental psychology, three in quantitative economic analysis, two in structural mechanics, three in psychology of classroom learning, and three in business administration. These and the fellows continuing from previous years will make a grand total of 45 NDEA Fellows studying at the University of Illinois during 1961-62.

8. Fellowships in National Competition. Table VIII shows the number of National Science Foundation Predoctoral Fellows selected during 1960-61 who chose the University of Illinois for their graduate studies, as compared with the number choosing each of the other "Big Ten" schools, the University of California at Berkeley, the University of Chicago, and Harvard-Radcliffe. Table IX gives similar information for the Woodrow Wilson Fellows selected during 1960-61.

These two tables show no marked change in the University of Illinois' position as reported in the Annual Report of the Graduate College for 1959-60. In 1959-60, Illinois led the "Big Ten" for the first time in the number of new National Science Foundation Fellows, having 41 to Wisconsin's 40. In 1960-61, however, Illinois fell back to second place as the number of such fellows at Wisconsin increased by eleven and the number at Illinois remained at 41. Illinois continued to attract a relatively smaller number of Woodrow Wilson Fellows, most of whom major in the humanities and social sciences. In 1960-61 the University moved from sixth to fifth place in the "Big Ten" and maintained its fifth position over the four-year period.

C. Courses, Curricula, and Graduate Faculty

The members of the Executive Committee of the Graduate College during 1960-61 were:

E. H. Davidson	D. R. Hodgman
H. G. Drickamer	L. G. Humphreys
N. A. Graebner	S. A. Kirk
R. E. Grim	A. V. Nalbandov

M. V. Novak	C. P. Slichter
R. B. Peck	B. O. Smith
J. R. Shipley	J. N. Young
W. H. Shoemaker	F. T. Wall, Chairman

Upon the recommendation of its Committee on Courses and Curricula, the Executive Committee in 1960-61 authorized 119 new and revised graduate courses.

The Committee also approved new Ph.D. programs in genetics, linguistics, marketing, nuclear engineering, and Russian, and new master's programs in linguistics and in the teaching of Russian.

The various departments nominated a total of 54 persons for full standing on the Graduate Faculty, of whom 34 were recommended by the Committee on Staff and approved by the Executive Committee and the Dean. Forty-one persons were granted master's standing.

D. Degrees Conferred

Table X indicates the number of advanced degrees conferred in 1960-61 and in the preceding two years. The most recent increase in the number of Ph.D. degrees conferred (9 per cent) was less than that for the preceding year (15 per cent), but the University of Illinois continues to be one of the nation's leading producers of scholars with advanced training and graduate degrees. The greatest increases in the number of Ph.D. degrees granted came in the areas of engineering, humanities, and social science.

E. The Administration of the Graduate Record Examination Tests

In 1959-60 the Executive Committee of the Graduate College, on the recommendation of its Committee on Admissions and Examinations, proposed that the Graduate Record Examination aptitude tests be required of all newly enrolled graduate students who are degree candidates and have not previously taken the tests. The Committee also proposed that appropriate GRE advanced tests be given if the students' major departments so requested.

In implementing this program, the Graduate College was able to take advantage of the low rates and special service provided by the Educational Testing Service's Institutional Testing Program. All departments were informed of the new program and invited to indicate whether they wished their majors to be given an advanced test. The following fourteen departments so indicated: Chemistry and Chemical Engineering, Civil Engineering, Economics, Electrical Engineering, Finance, French, Horticulture, Physics, Physiology, Political Science, Psychology, Spanish and Italian, Theoretical and Applied Mechanics, and Zoology. A total of 912 students took advanced tests during the year.

Aptitude tests were given to 1,325 students in November and 321 more in April. The scores of 120 students who had previously taken the tests were obtained from the Educational Testing Service. In this manner, aptitude test scores were secured for 1,766 students. To make for more meaningful analysis and comparisons, the scores for "English" students (those whose

native language is English) were recorded separately from those for "Foreign" students (those whose native language is other than English).

Each student received a report of his scores, and each department received a report of the scores of all its majors. Table XI shows the mean scores on the aptitude tests for each of the major subject-matter areas and for all students. These means are also compared with the mean scores of ETS's "basic reference group," which consists of 3,035 seniors in 21 colleges across the nation. As Table XI shows, the mean score for the University of Illinois "English" students on the verbal test was better than that achieved by 69 per cent of the basic reference group, and their mean score on the quantitative test was better than that achieved by 87 per cent of the basic reference group. "Foreign" students at the University, as might be expected, exceeded only 7 per cent of the basic reference group on the verbal test, but were in the 82nd percentile on the quantitative test. Table XI also shows comparisons among the various subject-matter areas.

The GRE data have been useful to the departments and to the Graduate College in such matters as the selection of fellows, planning educational programs, and acting on petitions. The program will be continued during 1961-62. The Graduate College's Committee on Admissions and Examinations is analyzing the results of the program and, as more information becomes available and more experience with them is gained, the GRE tests should prove to be increasingly useful in the administration of graduate education.

F. The Electronic Recording of Graduate Student Records

With invaluable cooperation from the Digital Computer Laboratory, the Graduate College in 1960-61 developed a comprehensive and reasonably sophisticated system for electronic processing of the academic records of graduate students. The system deals with such items as semester grades, cumulative grade-point averages, language requirements fulfilled, appointments held, units deferred, and the like. The plan is intended to provide academic information about our large number of graduate students in a form most useful to the departments and to the College. All information is processed by an electronic computer using punched-card input. It is hoped that this system will prove to be a useful prototype for the development of other student record systems.

II

The Promotion and Assistance of Research

The Graduate College seeks to fulfill its statutory mandate "to promote and assist in the development of research in all fields" in four principal ways: (1) freeing selected faculty members' time for research; (2) providing materials, equipment, and assistance for individual investigators; (3) supporting associated research and service enterprises; and (4) supporting channels for reporting research findings.

Some of these activities are supported in whole or in part by recurring funds, some by appropriations made from the University Research Board's

share of indirect costs received in connection with research contracts, and others by funds assigned to the Graduate College in connection with such programs as the National Science Foundations's Cooperative Graduate Fellowships and the National Defense Education Act Title IV Fellowships. Table XII shows the allocations made in 1960-61 from funds received in connection with fellowships supported by the federal government.

The group responsible for making most of the judgments concerning research grants is the University Research Board. During 1960-61 the members of the Board were:

J. F. Due	C. P. Slichter
Joseph Kastelic	R. P. Stearns
M. V. Novak	A. H. Taub
C. E. Osgood	Nelson Wax
Sherman Paul	F. T. Wall, Chairman

A. Freeing Faculty Time for Research

1. The Center for Advanced Study. The Center for Advanced Study was established as a special unit of the Graduate College by the University Board of Trustees in 1959 for "the encouragement of creative achievement and scholarship by providing recognition to scholars of the highest distinction and by providing incentives for the highest level of scholarly achievement."

(a) Members, 1960-61. The members of the Center for Advanced Study, who also constitute its Executive Committee, continued to be Professors John Bardeen, Joseph L. Doob, Reynold C. Fuson, and Julian H. Steward.

(b) Associate Members, 1960-61. After careful consideration of a number of applicants, the Executive Committee of the Center recommended the appointment of seven associate members for 1960-61. William W. Boone, professor of mathematics, was appointed for the second semester to do research on problems in group theory and topology. David E. Butler, Dean and Senior Tutor of Nuffield College, Oxford University, England, became the Center's first associate member from outside the University; he was appointed for the period July 1 through December 31 to conduct research on the American presidential nominating and electing process. Mr. Butler also gave three public lectures sponsored by the Center. Max H. Fisch, professor of philosophy, was appointed for the second semester to work on a biography of Charles Sanders Peirce. Norman A. Graebner, professor and chairman of the Department of History, was appointed for the academic year to complete his History of the Old Northwest, 1815-1860. Donald R. Hodgman, professor of economics, was appointed for the second semester to do research on decision-making in banks. Philip Kolb, professor of French, was appointed for the academic year to continue his study of Marcel Proust's Jean Santeuil. Sherman Paul, professor of English, was appointed for the second semester to complete a study of the activities and influence of Louis Sullivan as a literary critic.

2. Faculty Summer Fellowships. A total of 72 faculty members from 26 departments on the Urbana-Champaign campus and 7 departments in the Chicago Undergraduate Division applied for Faculty Summer Fellowships for the summer

of 1961. Thirty-one awards were made. The distribution of the awards by departments is indicated in Table XIII.

B. Providing Materials, Equipment, and Assistance for Individual Investigators.

Table XIV presents the appropriations made by the University Research Board in each of the four years from 1957-58 to 1960-61. The information is presented in seven main categories which are summarized in the first seven lines of the table. Detailed information concerning appropriations in each of the seven categories is presented in the main body of the table.

As in the past, most of the appropriations have been made to individual faculty members to enable them to employ research assistants and to purchase research materials and equipment. The increases in the total appropriations over the last two years can be attributed largely to the greater use of Research Board funds for initiating or providing interim support for programs that subsequently receive support from outside agencies. As a result, substantial portions of the Research Board grants are returned and reappropriated for other investigators, thereby permitting double and even triple use of some of the Board's resources. It should therefore be emphasized that the figures in Table XIV represent totals appropriated (and possibly recovered) and not what was actually spent.

The major portion of the item "Provision of Special Facilities for Interdepartmental Use," in Part I of Table XIV, consisted of appropriations to the Digital Computer Laboratory to enable it to keep on schedule in the construction of the new very-high-speed computer; it is anticipated that much of these funds will be returned for reappropriation in the year 1961-62.

The University Research Board provides support for a great many kinds of creative endeavor, and directs particular attention to the young investigator who needs a start before he can seek outside support. The Board also makes appropriations to newly arrived faculty members, who may already enjoy established reputations in research, to enable them to acquire research materials and equipment needed to resume their studies immediately upon joining the staff. Because of the larger number of such experienced new staff members who came to the campus during 1960-61, appropriations of this kind have increased.

C. Review of Applications for Research Grants and Contracts and of Gifts for Research

The Chairman and Secretary of the University Research Board have reviewed an increasing volume of applications for research aid submitted by staff members to outside agencies. These range from requests for a few hundred dollars to research proposals requiring as much as a million dollars, and the amount sought may be for the purchase of a single piece of equipment to be acquired immediately or it may be for the employment of personnel and the costs of operation of a research project for a period as long as five years and payable to the University over such a period of time. In Table XV this activity is summarized in terms of applications

processed during the year 1960-61; many of these have not yet been acted upon by the agencies to which they were addressed. Table XV also presents similar information for the year 1959-60.

As of July 1, 1961, action had been taken on 443 of the 730 applications submitted during the preceding twelve months. Of these, 398 were granted in whole or in part, and 45 were rejected. Of the total of $14,077,520 requested in the applications which were acted upon favorably, a total of $12,764,905 was awarded. As of the same date, 287 applications had not yet been acted upon by the agencies concerned. Of the 627 applications submitted during 1959-60, action had been taken on 516 as of July 1, 1961; only 40 of these were rejected, and the 476 successful applications carried awards totalling $13,044,989 as against $14,435,253 requested. Still pending from that year are 111 applications dealing with requests totalling $6,044,356. It is unlikely that many of these will be successful, inasmuch as a year has elapsed since the last of them was submitted. On the other hand, many of the 287 applications still pending from 1960-61 can be expected to receive favorable action during the period July 1 to December 31, 1961.

Comparison of the data shows that the number of applications submitted in 1960-61 rose by 16 per cent over the number in 1959-60. The average amount requested rose by about 30 per cent, and the total amount of support requested rose by approximately 50 per cent. The increase is almost entirely accounted for by requests originating in the pure and applied biological sciences and the pure and applied physical sciences. The increase in the amounts sought in these areas reflects the growing awareness on the part of the staff of the numerous federal programs for accelerating research efforts in the sciences.

D. Support of Associated Research and Service Enterprises

1. Digital Computer Laboratory. Under the direction of Acting Head A. H. Taub, the Digital Computer Laboratory during 1960-61 continued to expand its development, service, and instructional activities. The Illiac computer was used for approximately 2,883 hours in connection with unsponsored research by faculty members and students, and continues to be a major resource for investigations in a variety of fields. The IBM 650 computer was used for approximately 964 hours in connection with unsponsored research by faculty members and students, and has become a valuable adjunct to the service program.

The Laboratory's instructional program was expanded considerably. Members of the staff were responsible for the teaching of Mathematics 295, 387, 395, and 457; Electrical Engineering 393; and Mathematics-Electrical Engineering 294, 391, 392, and 394. Members of the staff also supervised the thesis work of two students who were awarded Ph.D. degrees in June, 1961. The development and construction of the new very-high-speed computer, supported principally by funds provided by the Atomic Energy Commission, the Office of Naval Research, and the National Science Foundation, continued at a satisfactory pace.

2. Electron Microscope Laboratory. Under the direction of Dr. Rubin Borasky, the staff of the Electron Microscope Laboratory offered two courses, Chemistry 423 and Chemistry 429, during 1960-61. The Laboratory also maintained a research facility used by students and faculty from 25 different departments. Work done with the Laboratory's assistance resulted in the completion of 16 publications and papers read before scientific societies.

3. Illinois Historical Survey. Under the direction of Mrs. Marguerite J. Pease, the Illinois Historical Survey expanded its collection of manuscript and other materials in Illinois and western history and provided services for scholars at the University of Illinois and a number of other institutions.

4. Natural Areas and Uncultivated Lands. Under the chairmanship of Professor S. C. Kendeigh, the Committee on Natural Areas and Uncultivated Lands continued to preserve and administer the University's natural areas for use in research by faculty members and students in a number of departments in the pure and applied biological sciences.

5. Physical Environment Unit. Under the chairmanship of Professor M. K. Fahnestock, the Physical Environment Unit provided facilities which were used by faculty and students in the departments of Physical Education for Men. Physical Education for Women, Home Economics, Mechanical and Industrial Engineering, Physiology, Psychology, Health Education, and by the Institute of Aviation.

6. Radiocarbon Laboratory. Under the directorship of Professor R. F. Nystrom, the Radiocarbon Laboratory continued to provide research facilities for faculty and students in the departments of Chemistry and Chemical Engineering, Animal Science, Dairy Science, Food Technology, Microbiology, and Veterinary Medical Science.

E. Support of Scholarly Publications

1. Publications by the University Press. The members of the University Press Board during 1960-61 were:

J. M. Edelman
T. B. Peterson
E. I. Rabinowitch
J. R. Shipley
M. Muntyan, Secretary
E. H. Davidson, Vice-Chairman
F. T. Wall, Chairman

(a) Serial Publications. The University Press continued to publish books with support from Graduate College funds in the following series: The Illinois Biological Monographs, the Illinois Monographs in the Medical Sciences, the Illinois Studies in Language and Literature, and the Illinois Studies in the Social Sciences. During 1960-61, a new series was added, the Illinois Studies in Anthropology. The works published and in process in these series during 1960-61 are shown in Table XVI.

(b) Non-Serial Publications. Works in this category published and in process during 1960-61 are also shown in Table XVI.

2. Annual List of Publications of the Faculty. For each of several years the Graduate College has provided a service to the University faculty and administration by publishing a booklet listing the scholarly publications of the University's faculty and staff members during the preceding year. During the editing and preparation of the list for 1960, the previously listed category of "Books Edited" was abandoned.

3. Illinois Journal of Mathematics. The Illinois Journal of Mathematics is published quarterly under the auspices of the Graduate College with support from the George A. Miller Endowment. During 1960-61 the Journal had a circulation of 543, including both domestic and foreign subscribers. Forty-nine papers were published, and sixty more were accepted for later publication.

4. Journal of English and Germanic Philology. The Journal of English and Germanic Philology is also published quarterly under the auspices of the Graduate College. During 1960-61 it had a circulation of 768, with 518 domestic and 250 foreign subscribers. Forty-two articles were published, and a sufficient number were accepted for later publication to constitute a two-year backlog.

III

The Division of the Graduate College at the Chicago Professional Colleges

(Report prepared with the assistance of Milan V. Novak, Associate Dean)

In recent years there has come an ever increasing national demand for persons combining professional training and degrees in medicine, dentistry, and pharmacy with graduate training and degrees in such related basic sciences as chemistry, microbiology, and physiology. These persons are sought to give instruction in colleges of medicine, dentistry, and pharmacy. Moreover, the precipitous increase in federal funds for research in the medical sciences has initiated a large increase in the amount of health-related research to be carried on; this increase can only materialize if more research specialists are trained.

Recent statistics indicate that about 270 Ph.D. degrees are awarded nationally each year in the medical basic sciences by the 85 medical schools. This number would not be adequate to keep up with current vacancies in medical college basic science staff positions, not to mention those in dental and pharmacy colleges, even if all graduates chose to seek academic positions. Since only one per cent of U. S. medical graduates (about 75 each year) choose a full-time academic career, it is obvious that for modern medical teaching and research, their numbers would fall far short of meeting the need.

The problem at present is more one of recruitment of students than of enlarging facilities. Annual surveys by the American Medical Association's Council on Medical Education indicate that American medical schools could accommodate from 30 to 60 per cent more graduate students with their present facilities, so the need for more intensive recruitment is obvious. Since most medical, dental, and pharmacy schools are physically removed from the usual undergraduate sources of graduate students, special recruitment and publicity regarding opportunities for graduate work in the related basic sciences are needed.

During 1960-61 the Division of the Graduate College of the University of Illinois at the Chicago Professional Colleges undertook the following principal activities in its efforts to contribute to the solution of these problems.

A. The Administration of Graduate Education

1. Enrollment. The enrollment at the beginning of the academic year 1960-61 compared with that for each of the three preceding years was:

1957-58 - 116
1958-59 - 151
1959-60 - 174
1960-61 - 170

Table XVII indicates the registration and degrees awarded in each department. Few of the departments have reached their maximum capacity of graduate students, and more beginning students can be accommodated, which points again to the necessity of effective recruitment. In some departments such endeavor has yielded positive results. The use of traineeship grant funds is being extended to allow payment for travel in connection with visits to undergraduate campuses in the interest of better recruitment. Letters from the Graduate College office to pre-professional student advisers at liberal arts colleges are frequently successful in obtaining names of prospective students. The circulation of fellowship announcements to some 200 colleges in the midwestern area twice each year has yielded some results. By far the most rewarding efforts, however, have been those of faculty members who visit campuses to speak to science clubs and science faculty advisers.

2. Financial Aid. Approximately 76 per cent of all graduate students on the Professional Colleges campus receive substantial financial support. Those admitted on probation or those taking small fractional-time work make up the remainder who receive little or no support. Since some teaching experience is required of degree candidates by most departments, all fellows and trainees engage in some teaching activities. The notable increase in training grants has provided increased funds for support of full-time students and has served to supplement the usual budgetary funds for University Fellowships as well as the small number of stipends provided from indirect costs accruing to the Research Board. Two National Science Foundation Cooperative Graduate Fellowships were won in national competition, and a substantial number of students have been awarded United States Public Health Service fellowships on direct application to the National Institutes of Health.

3. Courses and Staff. During 1960-61 the members of the Executive Committee, elected by the faculty, were:

N. R. Alpert
S. B. Binkley
H. R. Catchpole
M. H. Lepper
A. J. Perkins
R. F. Voigt
D. A. Wallace
D. M. Laskin
M. V. Novak, Chairman ex officio

Six meetings were held during the year, in the course of which the Committee approved 14 new courses. Proposals for the establishment of a Ph.D. in Pharmacy and a Master of Nursing degree were considered, but no final action was taken.

Seventeen persons were granted full standing on the graduate faculty, eleven were granted master's standing, and four were granted limited standing.

Four meetings of the general faculty were convened, including one special meeting. A number of changes in rules were adopted, the burden of which was to provide greater freedom for the departments and advisers to determine appropriate programs for their students.

An extensively revised edition of the catalogue was issued.

B. Promotion and Assistance of Research

During 1960-61 the members of the University Research Board Subcommittee for the Chicago Professional Colleges were:

R. Daniels
D. M. Laskin
J. P. Marbarger
C. Smith
M. V. Novak, Chairman

Seven meetings were held, and a total of 46 grants were made to 40 individuals for equipment, materials, and assistants for various investigations in the medical sciences. The total dollar value of these grants was $109,838, and the distribution by departments is shown in Table XVIII.

APPENDIX

TABLE I

A. SEMESTER ENROLLMENTS

Year	Summer [a]	Fall	Spring
1960-61	4,069	4,816	4,730
1959-60	3,765	4,534	4,460
1958-59	3,589	4,163	4,191
1957-58	3,069	3,722	3,847
1956-57	2,971	3,398	3,348
1955-56	2,711	3,120	3,136
1954-55	2,763	3,027	2,938
1953-54	2,835	3,008	2,877
1952-53	2,950	3,104	3,034
1951-52	3,539	3,316	3,180

a/ Summer enrollment figures apply to the session immediately preceding the academic year indicated.

TABLE I

B. ANNUAL ENROLLMENT [b]

Year	In Residence		In Absentia	Total
	Men	Women		
1960-61	5,269	1,799	202	7,270
1959-60	4,953	1,635	192	6,780
1958-59	4,601	1,569	200	6,370
1957-58	4,169	1,450	205	5,824
1956-57	3,990	1,379	76	5,445
1955-56	3,743	1,279	82	5,104
1954-55	3,570	1,303	85	4,958
1953-54	3,693	1,275	53	5,021
1952-53	3,876	1,252	58	5,186
1951-52	4,293	1,242	47	5,582

b/ The figures represent total numbers of different individuals registered at least once during the academic year and the preceding summer session.

TABLE II

ENROLLMENT BY DEPARTMENTS

1958-59 -- 1960-61

DEPARTMENT	1958-59	1959-60	1960-61
LIBERAL ARTS AND SCIENCES			
Anthropology	a	13	15
Astronomy	4	5	7
Biological Sciences	10	9	9
Teaching of Biological Sciences & General Science	26	33	50
Botany	37	38	45
Chemistry	321	329	330
Chemical Engineering	41	47	54
Teaching of Chemistry	8	6	4
Classics	10	1	a
Classical Philology	a	8	8
Greek	a	3	1
Latin	a	2	2
Teaching of Latin	1	0	1
English	208	243	254
Teaching of English	18	26	35
Entomology	43	40	42
French	27	46	36
Teaching of French	3	5	6
Geography	36	55	38
Teaching of Geography	a	1	a
Geology	100	95	94
German	20	21	22
Teaching of German	2	4	4
History	124	139	140
Linguistics	b	b	3
Mathematics	177	197	193
Statistics	21	19	12
Teaching of Mathematics	73	104	138
Teaching of Mathematics and Physical Sciences	0	2	1
Microbiology	34	44	47

a/ Data not available because of change in student record categories.

b/ Program not offered.

Enrollment by Departments (cont.)

DEPARTMENT	1958-59	1959-60	1960-61
Philosophy	35	38	41
Physical Sciences	0	0	2
Teaching of Physical Sciences	3	3	4
Physiology	47	42	50
Political Science	53	57	59
Psychology	111	124	138
Russian	a	4	8
Social Sciences	20	18	11
Teaching of Social Studies	35	28	34
Sociology (included Anthropology prior to 1959-60)	50	50	52
Spanish (included Italian prior to 1959-60)	45	54	53
Italian	a	2	2
Teaching of Spanish	2	1	2
Speech	110	108	106
Speech Correction	23	26	31
Teaching of Speech	2	1	6
Zoology	75	97	82
Subtotal	1,955	2,188	2,272
AGRICULTURE			
Agricultural Economics	72	70	68
Agricultural Education	19	18	10
Agricultural Engineering	16	13	15
Agronomy	90	80	85
Animal Science	48	52	47
Animal Nutrition	21	21	14
Dairy Science	36	33	23
Food Technology	34	36	42
Dairy Technology	12	9	10
Home Economics	54	51	52
Home Economics Education	14	11	14
Horticulture	27	27	25
Plant Pathology	24	19	16
Subtotal	467	440	421

a/ Data not available because of change in student record categories.

Enrollment by Departments (cont.)

DEPARTMENT	1958-59	1959-60	1960-61
COMMERCE AND BUSINESS ADMINISTRATION			
Accountancy (included Accounting Science prior to 1959-60)	84	67	66
Accounting Science	a	17	27
Business	37	44	49
Business Administration	a	31	37
Commercial Teaching	15	18	28
Economics	77	109	108
Finance	16	19	30
Management	42	25	21
Marketing	26	21	26
Subtotal	297	351	392
EDUCATION			
Education	1,308	1,368	1,484
Education of Deaf	1	2	2
Education of Mentally Handicapped Children	6	9	13
Subtotal	1,315	1,379	1,499
ENGINEERING			
Aeronautical Engineering	34	30	34
Ceramic Engineering	23	21	21
Civil Engineering (included Sanitary Engineering prior to 1959-60)	263	285	313
Sanitary Engineering	a	9	10
Electrical Engineering	232	283	324
Mechanical Engineering	109	140	157
Metallurgical Engineering (included Mining Engineering prior to 1959-60)	44	44	45
Mining Engineering	a	8	8
Nuclear Engineering	5	17	32
Physics	198	238	253
Teaching of Physics	2	2	4
Theoretical and Applied Mechanics	46	61	88
Subtotal	956	1,138	1,289

a/ Data not available because of change in student record categories.

Enrollment by Departments (cont.)

DEPARTMENT	1958-59	1959-60	1960-61
FINE AND APPLIED ARTS			
Architecture (included Architectural Engineering prior to 1959-60)	31	21	39
Architectural Engineering	a	6	6
Art	30	0	a
Design (formerly included in Art)	a	5	3
Painting and Printmaking (formerly included in Art)	a	24	25
Art Education	15	16	15
Art History	4	8	7
Music	109	58	58
Musical Arts (formerly included in Music)	a	44	52
Musicology (formerly included in Music)	a	18	14
Music Education	186	188	206
Landscape Architecture	5	8	11
City Planning	10	17	22
Subtotal	390	413	458
JOURNALISM AND COMMUNICATIONS			
Advertising	7	10	11
Journalism	29	20	16
Radio and Television	5	17	6
Television	7	a	2
Subtotal	48	47	35
PHYSICAL EDUCATION			
Dance	b	b	3
Health Education	12	13	15
Physical Education	145	133	132
Recreation	28	29	32
Subtotal	185	175	182

a/ Data not available because of change in student record categories.

b/ Program not offered.

Enrollment by Departments (cont.)

DEPARTMENT	1958-59	1959-60	1960-61
BIOPHYSICS	3	3	5
COMMUNICATIONS	30	39	38
LABOR AND INDUSTRIAL RELATIONS	54	45	36
LAW			
Law	8	10	9
Comparative Law	b	4	3
LIBRARY SCIENCE	200	201	210
SOCIAL WORK	63	87	81
VETERINARY MEDICAL SCIENCE	32	38	42
UNCLASSIFIED	167	222	298
IN ABSENTIA	200	(192)[c]	(202)[c]
GRAND TOTAL	6,370	6,780	7,270

[a] Data not available because of change in student record categories.

[b] Program not offered.

[c] These students are included in the foregoing departmental figures.

TABLE III

FELLOWS IN RESIDENCE

1960-61

TYPE OF FELLOWSHIP	NUMBER IN RESIDENCE Semester I		Semester II	
Supported by University Funds				
University Fellows	147		144	
University Teaching Fellows	34		37	
Subtotals		181		181
Supported by Industries and Foundations				
Selected by the University	157		152	
Not selected by the University, but recognized as fellows	30		30	
Subtotals		187		182
Supported by the U. S. Government				
National Science Foundation Cooperative	40		39	
National Science Foundation Predoctoral	41		39	
National Science Foundation Mathematics Institute	46		48	
National Science Foundation Science Faculty	9		7	
National Defense Education Act Title IV	22		22	
National Institutes of Health	3		5	
National Institute of Mental Health	20		20	
U. S. Public Health Service	53		53	
U. S. Department of Health, Education, and Welfare	17		15	
Subtotals		251		248
TOTALS		619		611

TABLE IV

APPLICATIONS FOR FINANCIAL AID

1961 -- 1962

	SUBJECT-MATTER AREA										1961-62	1960-61
Preference	0	1	2	3	4	5	6	7	8	9	Totals	Totals
F	103	300	124	518	195	63	76	38	725	512	2,654	(2,178)
T	26	92	28	107	38	16	26	2	196	87	618	(428)
A	47	105	54	121	73	62	70	57	267	216	1,072	(1,051)
W	6	3	5	17	12	5	1	1	12	12	74	(87)
Not Indicated	-	-	-	2	-	1	1	-	5	7	16	(15)
1961-62 Totals	182	500	211	765	318	147	174	98	1,205	834	4,434	(3,759)
1960-61 Totals	(140)	(425)	(229)	(580)	(290)	(148)	(161)	(124)	(1,117)	(545)		

CODE

Number	Areas of Instruction
0	Not known
1	Humanities (pure and applied)
2	Arts (pure and applied)
3	Social Sciences (pure)
4	Social Sciences (applied)
5	Education
6	Biological Sciences (pure)
7	Biological Sciences (applied)
8	Physical Sciences (pure)
9	Physical Sciences (applied)

Preferences

F Fellowship
T Teaching Fellowship
A Assistantship
W Tuition and Fee Waiver

TABLE V

UNIVERSITY FELLOWSHIP AWARDS

1958-59 -- 1961-62

DEPARTMENT	1958-1959 Rec.[a]	1958-1959 Award.[b]	1959-1960 Rec.[a]	1959-1960 Award.[b]	1960-1961 Rec.[a]	1960-1961 Award.[b]	1961-1962 Rec.[a]	1961-1962 Award.[b]
Accountancy	13	5	20	4	11	4	10	5
Advertising	-	-	-	-	0	0	3	1
Aeronautical Engineering	7	2	7	2	6	3	6	3
Agricultural Economics	15	1	5	3	5	2	7	1
Agricultural Engineering	0	0	1	0	2	1	0	0
Agronomy	13	5	9	5	10	5	9	6
Animal Science	5	1	3	1	2	1	4	1
Anthropology	5	2	7	2	6	3	8	5
Architecture	1	1	2	2	6	0	5	2
Art	6	2	19	8	7	5	7	3
Astronomy	2	0	0	0	3	3	3	1
Biophysics	-	-	-	-	2	1	1	0
Botany	10	1	4	3	9	5	12	0
Business Administration	-	-	-	-	3	1	4	2
Business	9	2	10	2	7	4	7	2
Business Educ.	-	-	-	-	2	0	2	0
Ceramic Eng.	5	0	1	0	2	1	3	1

a/ Recommended by departments.

b/ Recommended by Graduate College Fellowship Committee.

FELLOWSHIP AWARDS (cont.)

DEPARTMENT	1958-1959 Rec.[a]	1958-1959 Award.[b]	1959-1960 Rec.[a]	1959-1960 Award.[b]	1960-1961 Rec.[a]	1960-1961 Award.[b]	1961-1962 Rec.[a]	1961-1962 Award.[b]
Chemistry and Chem. Eng.	90	42	92	38	90	35	81	63
City Plan. and Land. Arch.	5	1	8	2	5	0	5	3
Civil Eng.	36	6	38	14	25	20	33	23
Classics	4	0	9	5	5	4	4	4
Communications	1	0	13	3	4	2	10	1
Dairy Science	8	2	6	1	4	0	4	0
Dance	-	-	-	-	0	0	1	1
Digital Computer Laboratory	0	0	5	4	6	1	7	3
Economics	12	2	24	9	12	8	14	9
Education	17	5	15	3	16	10	15	9
Electrical Eng.	20	16	30	23	26	20	37	24
English	24	11	23	15	25	19	29	19
Entomology	4	2	2	1	6	4	4	2
Finance	6	1	1	0	5	3	5	1
Food Technology	3	2	8	2	6	4	7	3
French	11	3	15	10	9	5	15	10
Geography	5	3	7	5	9	3	9	6
Geology	43	10	43	14	21	11	25	12
German	5	5	6	4	5	4	5	4
Health Educ.	-	-	-	-	0	0	0	0
History	20	12	23	15	25	14	23	15

a/ Recommended by departments.

b/ Recommended by Graduate College Fellowship Committee.

FELLOWSHIP AWARDS (cont.)

DEPARTMENT	1958-1959 Rec.[a]	1958-1959 Award.[b]	1959-1960 Rec.[a]	1959-1960 Award.[b]	1960-1961 Rec.[a]	1960-1961 Award.[b]	1961-1962 Rec.[a]	1961-1962 Award.[b]
Home Economics	3	0	0	0	1	1	3	0
Horticulture	12	0	12	0	4	3	5	0
Journalism	6	2	5	0	3	1	5	0
Labor & Indus. Relations	8	2	4	1	2	1	5	2
Law	0	0	11	6	5	0	7	3
Library Science	14	2	6	3	9	4	7	3
Linguistics	-	-	-	-	-	-	2	1
Management	5	1	8	1	6	1	3	0
Marketing	8	0	7	0	5	3	6	3
Mathematics	27	10	30	13	26	15	27	15
Mechanical Eng.	11	1	13	4	9	7	11	4
Microbiology	6	5	6	3	1	0	3	1
Mining & Met. Engineering	2	0	3	1	4	4	8	3
Music	20	10	26	9	19	14	21	19
Nuclear Eng.	0	0	4	3	6	5	12	5
Philosophy	12	5	14	7	12	7	11	7
Physical Educ.	0	0	0	0	4	2	5	1
Physical Science	-	-	-	-	-	-	1	1
Physics	31	22	61	23	40	21	40	31
Physiology	5	2	5	0	6	4	7	2
Plant Pathology	4	0	4	1	3	0	2	0
Political Science	17	11	32	6	17	13	20	15

a/ Recommended by departments.

b/ Recommended by Graduate College Fellowship Committee.

FELLOWSHIP AWARDS (cont.)

DEPARTMENT	1958-1959 Rec.[a]	1958-1959 Award.[b]	1959-1960 Rec.[a]	1959-1960 Award.[b]	1960-1961 Rec.[a]	1960-1961 Award.[b]	1961-1962 Rec.[a]	1961-1962 Award.[b]
Psychology	21	13	21	18	22	8	29	15
Radio and Telvision	-	-	-	-	1	1	0	0
Recreation	4	0	1	0	1	0	0	0
Russian	-	-	-	-	3	1	4	1
Social Work	14	0	5	2	1	1	4	1
Sociology	5	1	8	5	9	5	8	2
Spanish and Italian	7	3	9	8	11	9	14	12
Speech	8	3	8	5	8	6	9	6
Theoretical and Applied Mech.	15	4	18	5	14	7	11	6
Vet. Med. Science	1	0	2	1	0	0	0	0
Zoology	6	2	10	5	14	8	22	3
GRAND TOTAL	677	244	789	330	653	358	736	407

a/ Recommended by departments.

b/ Recommended by Graduate College Fellowship Committee.

TABLE VI

PERCENTAGES OF UNIVERSITY FELLOWSHIP OFFERS ACCEPTED

1959-60 -- 1961-62

SUBJECT MATTER AREA	1959-60 Old[a]	1959-60 New[b]	1959-60 TOTAL	1960-61 Old[a]	1960-61 New[b]	1960-61 TOTAL	1961-62 Old[a]	1961-62 New[b]	1961-62 TOTAL
All Areas	87.8	41.6	57.4	90.5	41.1	57.4	95.0	36.1	53.9
Pure Physical Sciences	91.7	32.2	49.4	83.3	24.5	42.8	97.4	20.0	47.7
Pure Biological Sciences	83.3	71.4	76.9	100.0	46.1	66.7	66.7	40.0	50.0
Applied Physical Sciences	68.0	50.0	57.9	100.0	41.5	57.5	100.0	49.2	60.7
Applied Biological Sciences	100.0	66.7	91.7	80.0	55.5	64.3	85.7	0	60.0
Humanities	90.0	31.4	52.7	90.9	21.2	49.1	94.1	36.4	52.4
Fine and Applied Arts	100.0	73.3	80.9	100.0	62.5	84.2	93.3	92.3	92.8
Education	100.0	66.7	85.7	50.0	85.7	81.2	100.0	54.5	58.3
Pure Social Sciences	93.7	36.4	51.7	94.1	37.8	55.5	93.3	23.1	38.8
Applied Social Sciences	87.5	66.7	73.9	71.4	76.5	75.0	100.0	41.2	54.5

a/ "Old" students are those previously registered in the Graduate College of the University of Illinois.

b/ "New" students are those not previously registered in the Graduate College of the University of Illinois.

TABLE VII

NSF COOPERATIVE AND SUMMER FELLOWSHIPS

1959-60 -- 1961-62

	COOPERATIVE FELLOWSHIPS		SUMMER FELLOWSHIPS	
YEAR	Number Recommended	Number Awarded	Number Recommended	Number Awarded
1959-60	88	47	48	33
1960-61	86	46	47	24
1961-62	106	32	50	27

TABLE VIII

GRADUATE SCHOOLS SELECTED BY NSF PREDOCTORAL FELLOWS

1957-61

UNIVERSITY	1957-58	1958-59	1959-60	1960-61	Total
Illinois	33	26	41	41	141
Indiana	2	9	7	13	31
Iowa	3	4	4	7	18
Michigan	29	31	34	34	128
Michigan State	3	0	1	7	11
Minnesota	14	14	12	14	54
Northwestern	7	7	12	13	39
Ohio State	2	7	8	12	29
Purdue	6	5	10	22	43
Wisconsin	39	33	40	51	163
California (Berkeley)	62	85	107	161	415
Chicago	47	58	40	46	191
Harvard-Radcliffe	127	189	182	222	720

TABLE IX

GRADUATE SCHOOLS SELECTED BY WOODROW WILSON FELLOWS

1957-61

UNIVERSITY	1957-58	1958-59	1959-60	1960-61	Total
Illinois	4	15	16	15	50
Indiana	5	4	17	33	59
Iowa	3	7	13	8	31
Michigan	12	35	33	32	112
Michigan State	0	2	2	1	5
Minnesota	9	6	19	13	47
Northwestern	9	8	17	20	54
Ohio State	1	7	5	0	13
Purdue	0	2	1	1	4
Wisconsin	6	38	41	54	139
California (Berkeley)	13	53	79	125	270
Chicago	13	43	50	58	164
Harvard-Radcliffe	40	133	115	292	580

TABLE X

DEGREES CONFERRED

FIELD OF STUDY	Ph.D.			A.M. and M.S.		
	1960-61	1959-60	1958-59	1960-61	1959-60	1958-59
Accountancy	3	4	8	12	10	11
Advertising	a	a	a	3	7	1
Aeronautical Engineering	1	0	3	9	10	3
Agricultural Economics	6	7	4	12	19	16
Agricultural Education	a	a	a	3	8	5
Agricultural Engineering	a	a	a	4	9	4
Agronomy	14	7	6	14	14	21
Animal Nutrition	4	7	4	0	1	0
Animal Science	4	13	3	4	11	5
Anthropology	0	0	0	1	1	1
Architectural Engineering	a	a	a	2	6	5
Art Education	a	a	a	6	6	5
Art History	a	a	a	2	1	2
Astronomy	0	0	0	0	0	1
Biological Sciences	a	a	a	2	6	2
Biophysics	1	0	1	a	a	a
Botany	7	4	5	7	7	8
Business	4	2	4	a	a	a
Ceramic Engineering	4	3	2	2	8	7
Chemical Engineering	10	10	4	10	10	11

a/ Degree not offered.

DEGREES CONFERRED (cont.)

FIELD OF STUDY	Ph.D.			A.M. and M.S.		
	1960-61	1959-60	1958-59	1960-61	1959-60	1958-59
Chemistry	57	68	51	42	36	33
City Planning	a	a	a	6	7	2
Civil Engineering	26	17	11	102	103	81
Classical Philology	2	1	0	a	a	a
Classics	a	a	a	1	0	0
Commercial Teaching	a	a	a	2	3	0
Communications	3	3	5	a	a	a
Dairy Science	2	8	4	5	4	10
Dairy Technology	2	1	1	1	2	3
Dance	a	a	a	1	1	a
Economics	10	8	7	20	12	15
Education	15	10	13	3	7	6
Education of Deaf	a	a	a	0	1	1
Education of Mentally Handicapped Children	a	a	a	3	2	4
Electrical Engineering	17	21	13	99	71	58
English	6	13	12	39	41	41
Entomology	8	4	4	5	5	8
Finance	0	0	a	7	2	5
Food Technology	6	3	5	5	4	3
French	0	3	1	6	10	0
Geography	1	4	3	8	11	1
Geology	23	7	14	11	15	21

a/ Degree not offered.

DEGREES CONFERRED (cont.)

FIELD OF STUDY	Ph.D.			A.M. and M.S.		
	1960-61	1959-60	1958-59	1960-61	1959-60	1958-59
German	3	0	3	2	4	5
Greek	a	a	a	0	1	1
History	17	7	9	14	12	23
Health Education	a	a	a	7	7	4
Home Economics	0	0	a	18	14	10
Home Economics Education	a	a	a	5	4	4
Horticulture	2	3	2	3	6	3
Italian	1	0	0	0	0	0
Journalism	a	a	a	5	1	6
Labor and Industrial Relations	a	a	a	13	14	16
Latin	a	a	a	1	0	0
Library Science	4	6	0	84	62	71
Linguistics	0	a	a	1	a	a
Management	a	a	a	8	6	8
Marketing	0	a	a	8	8	3
Mathematics	8	16	11	28	33	40
Mechanical Engineering	7	1	2	52	39	28
Metallurgical Engineering	4	2	4	14	3	10
Microbiology	6	4	6	3	3	2
Mining Engineering	0	1	0	3	3	1
Music Education	a	a	a	51	44	59
Musicology	1	0	0	a	a	a
Nuclear Engineering	0	a	a	11	8	3

a/ Degree not offered.

DEGREES CONFERRED (cont.)

FIELD OF STUDY	Ph.D.			A.M. and M.S.		
	1960-61	1959-60	1958-59	1960-61	1959-60	1958-59
Philosophy	3	0	1	4	2	7
Physical Education	4	7	4	29	27	38
Physics	19	15	12	64	52	44
Physiology	5	5	5	8	9	13
Plant Pathology	2	6	7	3	2	4
Political Science	11	5	6	9	7	12
Psychology	15	9	12	20	10	12
Radio and Television	a	a	a	4	4	2
Recreation	a	a	a	8	10	9
Russian	0	a	a	1	a	a
Sanitary Engineering	0	1	0	1	3	1
Social Sciences	a	a	a	6	11	4
Sociology	1	4	7	9	6	5
Spanish	0	4	3	13	12	11
Speech	11	3	8	17	23	18
Speech Correction	a	a	a	8	8	2
Statistics	0	5	0	4	5	7
Teaching of Biol. Sciences and General Science	a	a	a	11	8	7
Teaching of Chemistry	a	a	a	2	2	2
Teaching of English	a	a	a	6	8	1
Teaching of French	a	a	a	1	3	1
Teaching of German	a	a	a	0	3	0

a/ Degree not offered.

DEGREES CONFERRED (cont.)

FIELD OF STUDY	Ph.D.			A.M. and M.S.		
	1960-61	1959-60	1958-59	1960-61	1959-60	1958-59
Teaching of Latin	a	a	a	0	0	1
Teaching of Mathematics	a	a	a	57	4	54
Teaching of Physical Sci.	a	a	a	3	1	0
Teaching of Physics	a	a	a	2	0	1
Teaching of Social Studies	a	a	a	12	10	14
Teaching of Spanish	a	a	a	0	1	0
Teaching of Speech	a	a	a	1	0	3
Theoretical and Applied Mechanics	10	2	6	14	13	12
Veterinary Medical Science	3	1	1	9	5	9
Zoology	5	11	5	10	9	11
Subtotal	378	346	302	1,126	1,001	1,002

a/ Degree not offered.

TABLE X (cont.)

PROFESSIONAL DEGREES

	1960-61	1959-60	1958-59
Master of Music	22	25	21
Master of Fine Arts in			
Design	1	1	0
Landscape Architecture	3	1	0
Painting and Printmaking	11	5	10
Doctor of Education in			
Education	21	22	20
Music Education	6	3	1
Master of Education	254	261	311
Master of Social Work	33	25	25
Advanced Certificate in			
Education	22	23	23
Music Education	2	1	2
Doctor of the Science of Law	2	1	0
Master of Laws	0	1	2
Master of Comparative Law	2	0	a
Doctor of Musical Arts	4	0	0
Master of Television	1	1	1
Master of Architecture	16	8	6
Master of Accounting Science	14	10	1
Master of Commerce	8	0	a
Master of Business Administration	5	0	a
Subtotal	427	388	423
GRAND TOTAL	1,931	1,735	1,727

a/ Degree not offered.

TABLE XI

Mean Scores of Newly Enrolled Graduate Students
on Graduate Record Examination Aptitude Tests
by Areas
1960-61

	"English" Students					"Foreign" Students				
Area	No.	Verbal	BRG a/ Percentile	Quant.	BRG a/ Percentile	No.	Verbal	BRG a/ Percentile	Quant.	BRG a/ Percentile
ALL STUDENTS	1,457	539	69	588	87	309	366	07	572	82
Pure Physical Sciences	219	575	78	681	96	38	374	10	556	78
Pure Biological Sciences	68	516	62	516	68	6	385	13	501	61
Applied Physical Sciences	350	543	70	704	97	158	372	09	628	93
Applied Biological Sciences	66	464	42	543	76	32	316	01	521	70
Humanities	123	600	83	502	62	9	497	60	483	54
Fine and Applied Arts	99	510	60	518	70	8	358	06	523	71
Education	267	504	58	487	56	16	326	02	448	36
Pure Social Sciences	116	597	83	571	82	14	355	06	502	61
Applied Social Sciences	149	502	57	546	76	28	360	06	502	61

a/ ETS "basic reference group."

TABLE XII

Allocations from Institutional Grants in Connection with Federally Supported Fellowships 1960-61

Allocations made to	Amount
Department of Anthropology	$ 17,500
Department of Botany	6,500
Department of Chemistry and Chemical Engineering	5,000
Department of Civil Engineering	9,420
Graduate Program in Communications	2,000
Department of Psychology	3,000
Bureau of Educational Research	3,450
Electron Microscope Laboratory	27,736
Institute of Government and Public Affairs	300
Institute for Research on Exceptional Children	2,500
Office of Foreign Student Affairs	500
Ultracentrifuge Laboratory	6,835
University High School	17,000
College of Education	37,080
Graduate College	
Administration of Graduate Record Examinations	5,591
Additional support for Fellows	4,000
Miscellaneous Administration	2,562
Unassigned Balance	3,016
TOTAL	$153,990

TABLE XIII

FACULTY SUMMER FELLOWS, BY DEPARTMENTS

1957 -- 1961

Department	Summer Sessions 1957	1958	1959	1960	1961	Total
Accountancy	1				1	2
Architecture	1		1			2
Art	3	5	1	4	4	17
Botany				1	1	2
Chemistry and Chemical Engineering	2	2	2	2		8
City Planning					1	1
Civil Engineering					2	2
Classics		1				1
Division of General Studies					1	1
English	2	7	4	5	4	22
Entomology				1	2	3
French	1	2			1	4
Geography	1					1
Geology			1	1	1	3
German				1		1
Government and Public Affairs				1		1
History		1	1	1	2	5
Marketing		1				1
Mathematics	1	2	1	1		5
Music	2	2	1	2	2	9
Philosophy	1		1	1	1	4
Physiology			1			1
Political Science			1	2	1	4

TABLE XIII (cont.)

Department	Summer Sessions 1957	1958	1959	1960	1961	Total
Psychology	2		1	1		4
Russian					1	1
Sociology	1		2	1	1	5
Spanish and Italian		1	2			3
Zoology	1		1	2	1	5
Chicago Undergraduate Division	3	2	3	1	4	13
TOTAL	22	26	24	28	31	131

TABLE XIV

UNIVERSITY RESEARCH BOARD APPROPRIATIONS

1957-58 -- 1960-61

	May 1, 1957 - June 30, 1958	July 1, 1958 - June 30, 1959	July 1, 1959 - June 30, 1960	July 1, 1960 - June 30, 1961
For General University Purposes	$ 226,344	$ 134,346	$ 190,944	$ 285,053
For the Humanities and the Arts, Urbana	39,827	25,462	49,134	47,881
For the Social Sciences, Urbana	79,756	83,019	75,862	71,809
For Education, Urbana	10,250	4,550	12,771	5,600
For the Biological Sciences, Urbana	93,187	101,178	133,881	146,984
For the Physical Sciences, Urbana	137,449	156,601	179,382	146,301
For the Chicago Undergraduate Division	7,330	15,327	2,186	8,094
TOTAL	$ 594,143	$ 520,483	$ 644,160	$ 711,722
I. FOR GENERAL UNIVERSITY PURPOSES				
Administrative and General Services	$ 44,431	$ 15,491	$ 54,550	$ 30,000
Center for Advanced Study			25,000	
Contributions on behalf of the University	500	500	550	500
Fellowships - Graduate Students	81,796	31,750	27,500	39,850
Faculty	22,500	22,500	25,200	27,900
Provision of Special Facilities for Interdepartmental Use	41,732	21,162	15,587	148,470
Library	25,700	41,943	42,557	37,755
University Press	9,685	1,000		578
Subtotals	$ 226,344	$ 134,346	$ 190,944	$ 285,053

TABLE XIV (cont.)

	May 1, 1957 - June 30, 1958	July 1, 1958 - June 30, 1959	July 1, 1959 - June 30, 1960	July 1, 1960 - June 30, 1961
II. FOR THE HUMANITIES AND THE ARTS, URBANA				
Architecture	$ 2,000			$ 1,900
Art		$ 1,400	$ 2,500	285
Classics	5,050	3,453	1,300	2,650
English	11,917	5,163	7,955	6,692
French	2,583	1,580	1,312	3,228
German	850	1,728	595	850
Journal of English and Germanic Philology	2,300	750	2,686	400
Music	6,100	5,160	18,706	16,267
Philosophy			1,400	1,900
Spanish and Italian	7,227	5,753	6,950	6,956
Speech	1,800	475	5,730	6,753
Subtotals	$ 39,827	$ 25,462	$ 49,134	$ 47,881
III. FOR THE SOCIAL SCIENCES, URBANA				
Accountancy			$ 5,000	$ 3,523
Anthropology and Sociology	$ 30,162			
Anthropology		$ 15,350	2,750	5,675
Sociology		8,768	524	3,450
Bureau of Community Planning				825

TABLE XIV (cont.)

	May 1, 1957 - June 30, 1958	July 1, 1958 - June 30, 1959	July 1, 1959 - June 30, 1960	July 1, 1960 - June 30, 1961
III. FOR THE SOCIAL SCIENCES, URBANA				
Economics	$ 5,569	$ 1,300	$ 7,215	$ 2,980
Bureau of Economic and Bus. Research				4,000
Finance		1,200	1,150	1,161
Geography	832	3,600	1,000	4,170
History	22,400	18,950	27,256	23,280
Illinois Historical Survey		3,000	1,370	1,810
Inst. for Research on Except. Children		1,350		
Inst. of Government and Public Affairs		3,650	700	
Inst. of Labor and Industrial Relations		7,147	2,220	1,240
Law			450	700
Marketing	650	1,545	450	500
Political Science	2,300	8,845	15,936	6,645
Psychology	17,843	8,314	9,861	11,850
Subtotals	$ 79,756	$ 83,019	$ 75,862	$ 71,809
IV. EDUCATION				
Education	$ 10,250	$ 4,550	$ 11,789	$ 3,100
Physical Education			982	2,500
Subtotals	$ 10,250	$ 4,550	$ 12,771	$ 5,600

TABLE XIV (cont.)

	May 1, 1957 - June 30, 1958	July 1, 1958 - June 30, 1959	July 1, 1959 - June 30, 1960	July 1, 1960 - June 30, 1961
V. FOR THE BIOLOGICAL SCIENCES, URBANA				
Agronomy	$ 2,673	$ 3,500	$ 8,800	$ 8,065
Animal Science		4,000	5,430	3,000
Botany	15,626	10,568	43,281	26,144
Dairy Science	8,951	10,206		6,975
Entomology	11,237	9,127	13,070	8,112
Food Technology	10,275	8,680	11,161	9,076
Home Economics			1,750	1,900
Horticulture	2,281	2,310		3,000
Life Sciences			911	2,234
Microbiology	14,600	6,283	28,190	25,915
Physiology	7,100	7,651	7,758	2,470
Plant Pathology		1,050		11,827
Veterinary Medicine	2,250	5,381	2,936	3,647
Zoology	18,194	32,422	10,594	34,619
Subtotals	$ 93,187	$101,178	$133,881	$146,984

TABLE XIV (cont.)

VI. FOR THE PHYSICAL SCIENCES, URBANA	May 1, 1957 - June 30, 1958	July 1, 1958 - June 30, 1959	July 1, 1959 - June 30, 1960	July 1, 1960 - June 30, 1961
Aeronautical Engineering	$	$	$ 10,070	$
Agricultural Engineering				7,000
Astronomy	16,778	11,200		4,100
Ceramic Engineering				6,000
Chemistry and Chemical Engineering	32,022	46,150	50,460	45,634
Civil Engineering	7,365	4,405	11,310	1,250
Electrical Engineering	10,988	15,850		33,800
Geology	17,803	5,711	11,358	3,817
Illinois Journal of Mathematics	3,000			
Mathematics			5,500	
Mechanical Engineering			5,000	
Mining and Metallurgical Engineering	2,500	7,750	16,840	11,845
Nuclear Engineering			27,950	
Physics	46,693	60,185	40,894	32,855
Theoretical and Applied Mechanics	300	5,350		
Subtotals	$137,449	$156,601	$179,382	$146,301

TABLE XIV (cont.)

	May 1, 1957 - June 30, 1958	July 1, 1958 - June 30, 1959	July 1, 1959 - June 30, 1960	July 1, 1960 - June 30, 1961
VII. FOR THE CHICAGO UNDERGRADUATE DIVISION				
Biological Sciences	$ 6,330	$ 11,727	$ 1,000	$ 3,715
Library				2,504
Physical Sciences		3,200		1,875
Social Sciences	1,000	400	1,186	
TOTAL	$ 7,330	$ 15,327	$ 2,186	$ 8,094

TABLE XV

STATISTICAL SUMMARY OF APPLICATIONS FOR RESEARCH GRANTS
AND CONTRACTS SENT TO AGENCIES OUTSIDE THE UNIVERSITY

Data on Applications Transmitted from 7-1-59 through 6-30-60

Area	APPLICATIONS SUBMITTED		APPLICATIONS ACTED ON (as of 7-1-61)					APPLICATIONS PENDING (as of 7-1-61)	
			Supported in whole or in part			Denied			
	No.	Amount Requested	No.	Amount Requested	Amount Received	No.	Amount Requested	No.	Amount Requested
Administration	2	$ 15,600	2	$ 15,600	$ 15,600	-	$ --	-	$ --
Humanities	7	232,091	4	111,385	109,032	1	84,576	2	36,130
Arts	4	49,000	4	49,000	49,000	-	--	-	--
Pure Social Science	40	1,009,784	33	613,820	593,740	2	13,645	5	382,319
Applied Social Science	23	1,285,070	16	376,375	346,968	-	--	7	908,695
Education	33	1,130,059	18	536,463	446,430	6	225,860	9	367,736
Pure Biological Science	52	1,709,039	37	884,267	700,353	3	82,223	12	742,549
Applied Biological Science	141	1,472,638	116	1,082,870	967,393	3	49,650	22	340,118
Pure Physical Science	133	5,944,220	99	4,191,332	4,062,441	9	248,689	25	1,504,199
Applied Physical Science	192	8,776,498	147	6,574,141	5,754,032	16	439,747	29	1,762,610
TOTALS	627	$21,623,999	476	$14,435,253	$13,044,989	40	$ 1,144,390	111	$ 6,044,356

TABLE XV (cont.)

STATISTICAL SUMMARY OF APPLICATIONS FOR RESEARCH GRANTS
AND CONTRACTS SENT TO AGENCIES OUTSIDE THE UNIVERSITY

Data on Applications Transmitted from 7-1-60 through 6-30-61

Area	APPLICATIONS SUBMITTED		APPLICATIONS ACTED ON (as of 7-1-61)					APPLICATIONS PENDING (as of 7-1-61)	
			Supported in whole or in part			Denied			
	No.	Amount Requested	No.	Amount Requested	Amount Received	No.	Amount Requested	No.	Amount Requested
Administration	4	$ 52,167	3	$ 51,500	$ 51,500	-	$ --	1	$ 667
Humanities	5	49,523	3	24,675	24,675	-	--	2	24,848
Arts	6	21,625	6	21,625	21,625	-	--	-	--
Pure Social Science	53	1,442,822	23	479,932	482,295	4	285,154	26	677,736
Applied Social Science	36	931,824	21	313,948	317,782	1	6,065	14	611,811
Education	35	1,214,844	14	358,325	343,278	5	383,832	16	472,687
Pure Biological Science	73	2,848,939	32	1,132,293	636,050	2	42,888	39	1,673,758
Applied Biological Science	150	3,033,326	96	879,730	821,774	7	91,839	47	2,061,757
Pure Physical Science	143	9,486,437	68	4,633,409	4,289,409	9	352,040	66	4,500,988
Applied Physical Science	225	13,697,159	132	6,182,083	5,776,517	17	807,252	76	6,707,824
TOTALS	730	$32,778,666	398	$14,077,520	$12,764,905	45	$ 1,969,070	287	$16,732,076

TABLE XVI

GRADUATE COLLEGE PUBLICATIONS

The Illinois Studies Series

Books Published

Block: Separation of the Farm Bureau and the Extension Service (SS)

DeJordy and Fletcher: 'Library for Younger Schollers' (LL)

Rothenberg: The Austrian military border in Croatia (SS)

Selander: Bionomics, systematics, and phylogeny of Lytta (BM)

Books in Process

Farnsworth: The Senate committee on foreign relations (SS)

Lida de Malkiel: Two Spanish masterpieces (LL)

TABLE XVI (cont.)

Non-Serial Publications

Books Published

Contemporary American painting and sculpture, 1961

Fisher: Financing Illinois government

Frick and Stearns: Mark Catesby, the colonial Audubon

Galileo: Discourse on bodies in water

Gettmann: George Gissing and H. G. Wells

Halcrow and others: Modern land policy

Harris: trans.: The genesis and structure of society (Gentile)
Harris: The social philosophy of Giovanni Gentile
Henry: What priority for education?

Herrick: Italian comedy in the Renaissance

Johansson: Genetic aspects of dairy cattle breeding

Lacy: Freedom and communications

Littleton: Essays on accountancy

Newell: Chicago and the labor movement

Rasmussen: Readings in the history of American agriculture

Rosenfeld: Port of New York, edited by Paul

Schramm, ed: The impact of educational television

Schramm, ed: Mass communications (revised)

Spence: God speed the plow

Steiner and Gove: Legislative politics in Illinois

UICSM: High school mathematics, Unit 5.

UICSM: High school mathematics, Unit 6.

Whitnah: History of the U. S. weather bureau

Wilson: Arnold Bennett and H. G. Wells

TABLE XVI (cont.)

Books in Process

Carozzi: On the external character of minerals

Carriel: Jonathan Baldwin Turner

Culbertson: the mind of robots

Cary: Joseph Warren, physician, politician, patriot

Diesing: Reason in society

Dillon: Elijah P. Lovejoy, abolitionist editor

Fletcher: The intellectual development of John Milton, vol. II

Frank: Lincoln as a Lawyer

Graebner and others: Politics and the crisis of 1860

Hoogenboom: Outlawing the spoils

Johannsen: The letters of Stephen A. Douglas

Porter and Johnson: National party platforms (revised)

Ray: George Bernard Shaw and H. G. Wells

Sanford: The quest for paradise

Shattuck: The King John prompt-book

Stillinger: An early draft of John Stuart Mill's Autobiography

UICSM: High school mathematics, Unit 7.

TABLE XVII

REGISTRATION ACCORDING TO THE MAJOR FIELD OF STUDY AND DEGREES CONFERRED

CHICAGO PROFESSIONAL COLLEGES

1960-61

DEPARTMENT	SUMMER	FALL	WINTER	SPRING	DEGREES CONFERRED June 9, 1961 M.S.	PH.D.
Anatomy	10	15	15	17	3	1
Biological Chemistry	29	40	32	28	2	5
Medicine	1					
Microbiology	14	16	14	15	4	
Pathology	3	1		1	1	
Pharmacology	16	10	9	7	3	3
Physiology	16	22	21	20	3	
Physiology (Clinical Science)	3	3	2	2		1
Public Health (course work only)	2	1				
Surgery	7	8	8	7	4	1
TOTAL MAJORING IN MEDICAL SCIENCES	101	116	101	97	20	11
Histology (Dental)	6	4	7	6	3	
Oral Pathology	2	3	3	3		
Oral Surgery	6	10	9	9	2	
Orthodontics	7	6	6	7	3	
Pedodontics	3	3	3	3		
TOTAL MAJORING IN DENTAL FIELDS	24	26	28	28	8	0
Chemistry (Pharmaceutical)	20	25	24	24	1	1
Pharmacognosy				2	1	
Pharmacy	3	3	3	2	2	
TOTAL MAJORING IN PHARMACY FIELDS	23	28	27	28	4	1
GRAND TOTAL OF REGISTRANTS AND DEGREES CONFERRED	148	170	156	153	32	12

TABLE XVIII

Appropriations by University Research Board

Subcommittee for the Chicago Professional Colleges

1960-61

Department		Total Appropriations
I. The Medical Sciences		
Anatomy		$ 4,410
Biological Chemistry		14,844
Medicine		17,102
Microbiology		6,607
Pathology		11,449
Pharmacology		1,610
Physiology		29,706
	Subtotal	$ 85,728
II. The Dental Sciences		
Oral Surgery		$ 2,600
Orthodontics		2,500
Pedodontics		2,135
	Subtotal	$ 7,235
III. The Pharmacy Sciences		
Chemistry (Pharmaceutical)		$ 14,365
Pharmacy		1,802
	Subtotal	$ 16,167
IV. Miscellaneous		
	Subtotal	$ 708
	GRAND TOTAL	$109,838